# TELECOMMUNICATIONS INDUSTRY

# OPPORTUNITY ANALYSIS

INPUT

# About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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DECEMBER 1989

# TELECOMMUNICATIONS INDUSTRY OPPORTUNITY ANALYSIS

INPUT®

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# Preface:

Important Note to Readers of this Report

Readers of this report should be aware that this is only one of thirteen vertical industry reports developed by INPUT for Moore IDS. These vertical reports, in turn, are followed by a final cross-industry report that serves the central mission of this project: to provide market opportunity recommendations that will help Moore IDS to focus strategically on a very limited number of high-value opportunities—whether within a single industry or across several.

Therefore, readers of this report should keep in mind several considerations while reviewing the findings presented here:

- To serve the central mission of helping Moore IDS to achieve strategic focus on a limited number of market opportunities, INPUT has applied a tight screening process to the applications examined in each vertical industry. The selection criteria targeted mission-critical, high frequency, repetitive variable-imaging applications that would represent an ongoing base of predictable revenue, as opposed to the current mix of ad hoc, project-oriented overflow work with peaks and valleys of a less predictable nature.

- Due to this tight screening process, readers may find that these vertical reports fail to mention certain applications, even though they represent currently viable Moore IDS revenue sources.

- Finally, recommendations presented in this single-industry report must be recognized by readers to be somewhat out of context:

- An opportunity that looks excellent—relatively—within a single industry may turn out to be dwarfed by applications in other industries.

- An application that looks to be of minimal attractiveness in a single industry may prove to be closely paralleled in several other industries—in such a way that together they constitute a preeminent cross-industry opportunity.

INPUT discusses such findings in the cross-industry report. Note that these cross-industry recommendations are the primary objective of this project, and thus they supersede those of the individual vertical market reports. The final cross-industry report should be examined for such perspective by any reader of this single-industry report.

It is hoped that this note will help readers place these findings in the proper perspective, especially in cross-referencing this single-industry viewpoint with the final report's cross-industry findings and recommendations.

# Table of Contents


I Introduction 1

**A.** Objectives 1
**B.** Scope 3
**C.** Methodology 5

II Executive Overview 11

**A.** Recommendations Summary 13
**B.** Application Opportunity Size 13
**C.** Application Opportunity Attractiveness 15
**D.** Target Audience of the Enterprise Served 17
**E.** New Sales and/or Delivery Mechanisms Required 19
**F.** Threats and Opportunities 21
**G.** Competition 22

III Market Opportunities 23

**A.** Introduction 23
**B.** Leading Application Opportunities 30
**1.** Basic Services Opportunities 30
**2.** Enhanced Services Opportunities 34
a. Introduction: Current Outsourcing and Future "Fantasies" 34
b. Enhanced Services Opportunities Overview 39
**C.** Application/Service Opportunity Sizing and Ratings 44
**D.** Recommendations 53

# Table of Contents (Continued)


IV Implementing Enhanced Services: Sales/Delivery Mechanisms Required 59

A. Sales Expertise 59
B. Printing and Mailing Equipment Required 59
C. Information Services Technologies Required 61
D. Potential Alliances/Acquisitions 61

V Other Observations 63

A. Data Processing/Information Services Issues 63
B. Environmental Threats and Opportunities 63
C. Competition 64
D. Leverage Potential 65
E. Marketing Ideas 65
F. Other Application Opportunities 65

# Exhibits


I

| | | |
|---|---|---|
| -1 | Key Research Objectives | 1 |
| -2 | Application/Service Type Definitions | 2 |
| -3a | Research Scope | 3 |
| -3b | Rationale for Excluding the Inter-Exchange Carrier Market Segment | 5 |
| -4 | Research Methodology | 6 |
| -5 | Interviewing Statistics | 7 |
| -6 | Interviewing Sample | 8 |
| -7 | Companies Interviewed | 9 |
| -8 | Categories of Interviewees | 10 |

II

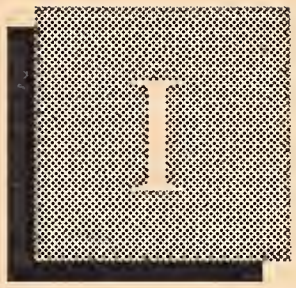
| | | |
|---|---|---|
| -1a | Applications Considered | 12 |
| -1b | Willingness to Outsource Basic Printing/Mailing | 12 |
| -2 | Basic Opportunities Sizing | 14 |
| -3 | Enhanced Opportunities Sizing | 15 |
| -4 | Attractiveness Ratings of Basic Services Opportunities | 16 |
| -5 | Attractiveness Ratings of Enhanced Services Opportunities | 17 |
| -6 | Opportunity Size by Target Audience | 18 |
| -7 | Opportunity Attractiveness by Target Audience | 19 |
| -8 | New Sales and Delivery Mechanisms Required | 20 |
| -9 | Environmental Threats and Opportunities | 21 |

III

| | | |
|---|---|---|
| -1 | Printing and Mailing Outsourcing Today | 24 |
| -2a | Future Outsourcing of Printing and Mailing—Independents, RHCs/BOCs, and Nets | 25 |
| -2b | Future Outsourcing of Printing and Mailing—Cellulars and CATVs | 26 |
| -3 | Reasons Against Future Outsourcing of Printing and Mailing—Independents, RHCs/BOCs, and Nets | 26 |
| -4 | Problems and Improvements Identified | 28 |
| -5 | Characteristics of the Key Basic Application | 30 |

# Exhibits (Continued)


| | | | |
|---|---|---|---|
| III | -6 | Two Types of Opportunities in Billing | 31 |
| | -7 | List of Other, Non-Attractive Applications | 35 |
| | -8 | Current Outsourcing of Enhanced Applications Functions | 35 |
| | -9 | Interviewees' Five-Year "Fantasies" | 37 |
| | -10 | Enhanced Services Opportunities | 40 |
| | -11 | Packaged Billing and Collection | 41 |
| | -12 | EFT/ACH Electronic Billing | 42 |
| | -13 | EDI-Based Corporate Billing and Collection | 43 |
| | -14 | INPUT Equates Basic Opportunity Size with Total Annual Expenditures on the Activity | 44 |
| | -15 | Basic Applications Sizing—Numeric | 45 |
| | -16 | Basic Applications Sizing—Graphic | 46 |
| | -17 | Attractiveness Ratings of Basic Services Opportunities | 47 |
| | -18 | Enhanced Applications Sizing—Numeric | 49 |
| | -19 | Enhanced Applications Sizing—Graphic | 51 |
| | -20 | Attractiveness Ratings of Enhanced Services Opportunities | 52 |
| | -21 | Recommendation—Basic Services Opportunities | 54 |
| | -22 | Recommendation—One Key to Winning Basic Applications | 55 |
| | -23 | Recommendation—Enhanced Services Opportunities | 56 |
| | -24 | Recommendation—Most Opportunities Will Require an Educational Sell | 57 |
| | -25 | Recommendation—Offer an Operations Study to Prospect | 58 |
| IV | -1 | New Sales and Delivery Mechanisms Required | 60 |
| V | -1 | Environmental Threats and Opportunities | 64 |



# Introduction

# 1 Introduction

## A Objectives

INPUT has conducted this research to meet objectives agreed upon with Moore Business Form's Information Distribution Services division ("Moore IDS"). See Exhibit I-1.

EXHIBIT I-1

**Telecommunications: Key Research Objectives**

- Evaluate business opportunities for both basic and enhanced services
- Achieve focus on leading opportunities
- Assess sales and delivery requirements
- Provide data for cross-industry evaluation

Moore IDS wishes to achieve focus on a limited number of key opportunities within each industry studied. This will serve a more proactive (rather than reactive) marketing thrust, as well as help to limit the planning and investment required to develop new mechanisms—including equipment, facilities, and other technology—that are necessary to sell and deliver additional services.

Looking forward to the future delivery by INPUT of information on opportunities in a wide range of target industries, this research also serves to gather data that can be cross-referenced among industries at a later date.

To meet most effectively the objective of providing Moore IDS with a comprehensive evaluation of telecommunications industry business opportunities, a fundamental distinction is made between basic and enhanced application opportunities. These are defined in Exhibit I-2.

EXHIBIT I-2

## Application/Service Type Definitions

Basic Services ("Moore IDS business today")

- Variable-image printing or embossed cards plus related mailing services such as stuffing, sealing, metering, sorting, and post office delivery

Enhanced Services ("Moore IDS future business")

- Basic services, as defined above, when integrated with any value-added front-end or backend services, typically of information services content (e.g. data base management) but also including other business services (e.g. lockbox)

and/or

- All-electronic solutions as a replacement for, or supplement to, paper-based business communications (e.g. electronic data interchange)

INPUT has developed the taxonomy shown in Exhibit I-2 for analyzing and prioritizing Moore IDS service opportunities.

## B

## Scope

Agreements between INPUT and Moore IDS as to the scope of the research to be conducted included both the telecommunications market segments to be covered (also noting those to be excluded) and the size of companies to be interviewed. See Exhibit I-3a.

EXHIBIT I-3a

### Telecommunications: Research Scope

- Market segments covered
  - Independent telephone companies (independents)
  - Regulated regional holding companies/Bell operating companies (RHCs/BOCs)
  - Cellular telephone companies (cellulars)
  - Network-based computer service companies (nets)
  - Cable TV companies (CATVs)
- Market segments excluded
  - Inter-exchange carriers (IXCs) such as AT&T, MCI, US Sprint
  - Telecommunications hardware/software firms
  - Telex companies
  - Satellite services
  - TV and radio broadcasters
- Size of organizations contacted
  - No distinctions made by size (all are large)

Since the 1983 Consent Decree that broke up the highly regulated AT&T telephone monolith, the telecommunications industry generally has expanded along new, often fractured lines of corporate organization. The independent telephone companies (independents) provide the exception: relatively continuous service before and after 1983 to many distinct, often

isolated communities historically unserved by AT&T. The major fracture, however, was to split the local telephone service away from AT&T and award it to seven partially regulated regional holding companies (RHCs) that in turn manage almost two dozen highly regulated Bell operating companies (BOCs) providing the local service directly to consumers and businesses.

Since 1983, a new radio-signal-based telephone service has emerged in the form of cellular telephone companies (cellulars), with the Federal Communications Commission dictating that in each local service one of two franchises will be awarded to the local RHC for operation as a nonregulated business and the other will go to a non-RHC company. Major acquisition trends in recent years have concentrated control of the local cellular franchises significantly.

Network-based computer service companies (nets) have been expanding since the 1970s, starting with basic network-based remote timesharing services and expanding into a wide range of network-based computer service businesses. Similarly, cable TV companies (CATVs) have been providing wire-based television service for years, first locally and in recent years increasingly as local affiliates of national corporations.

Even though Moore IDS currently has a major contract with Litel, a relatively small inter-exchange carrier (IXC), this segment was not included for reasons described below and in Exhibit I-3b.

Moore IDS agreed to the exclusion of the very large telecommunications industry segment represented by AT&T as an inter-exchange carrier. This is the long distance telephone business that the Consent Decree left with AT&T when local telephone service was split off to the RHCs/BOCs. INPUT and Moore IDS agreed that penetrating the AT&T corporate monolith for interviews would be very difficult at best. Further, AT&T in most cases now handles its billing—the major business mailing application for this research—by transferring data to the RHCs/BOCs for their inclusion on local telephone bills, followed by the appropriate financial transfers.

As it turned out during the interviewing process, the other two major IXCs—MCI and US Sprint—proved just as impenetrable to the interviewer. These companies are also in the process of negotiating transfer of billing to the RHCs/BOCs on a one-by-one basis; so little has been lost in terms of information about Moore IDS opportunities through the inability to interview MCI and US Sprint.

The other market segments listed were agreed upon for exclusion on the presumption of having few variable-image business communications needs of the type serviced by Moore IDS.

EXHIBIT I-3b

## Rationale for Excluding the Inter-Exchange Carrier Market Segment

- Few large prospects exist (e.g., AT&T, MCI, US Sprint)
- Few smaller prospects exist (e.g., Litel, currently a major IDS client)
- All major inter-exchange carriers have already begun, or are now negotiating, handling their billing through the local RHCs/BOCs and independents
- The need of business customers for more flexible billing will migrate eventually to EDI (electronic data interchange)
- In time, there will be third-party EDI network service opportunities, but only beyond the five-year horizon of this study

No attempt was made to constrain the interview sample by size of organization alone, with the exception that the size of AT&T was one factor in its exclusion.

## C

## Methodology

To conduct this research, INPUT applied a standard, proven methodology for interview-based custom research, shown in Exhibit I-4.

The research project began with in-person informational interviews with Moore IDS managers and test interviews with select Moore IDS customers, including one telecommunications company, conducted by the INPUT project manager. The telephone interview questionnaire was developed based on experience with the interviewing sequence of insurance companies just completed for Moore IDS. Moore IDS marketing approved the segmentation and proposed interview allocations suggested by INPUT.

EXHIBIT I-4

## Telecommunications: Research Methodology

- In-person informational and test interviews
- Development of draft telephone questionnaire
- Review by Moore IDS marketing of the target interview segment allocation
- Telephone interviews
  - "Cold calls" to find first senior executive of each firm
  - "Networking" as required to secure interviews
- Analysis and report writing

The telephone-interviewee sourcing methodology, which proved effective in the insurance industry interviews, started with a "cold call" made to the secretary to the president of a telecommunications company, explaining the purpose of the call and securing reference to a "first" target executive who would likely be knowledgeable on the interview's subject matter. Second, either that executive or the secretary to that executive was called. This often led to a networking reference to another executive or a lower-level manager. Such networking often required several stages of reference to find the right individual. See Exhibit I-5.

EXHIBIT I-5

## Telecommunications: Interviewing Statistics

- Over 80 companies contacted "cold"
  - No individuals' names or references provided
  - INPUT agreed that Moore IDS customers would be a poor sample
- Over 300 calls made during 10 days
  - Secured 24 interviews
- When reached, nine other executives or managers refused to participate
  - "There is a 'company policy' against telephone questionnaires"
  - "I'm not willing to take 20 minutes for such questions"

Note: Interviews emphasized the computer-printing function (getting information out and printed for mailing)

It soon became obvious that the person most likely to be able to provide useful answers—especially as to today's operations—was someone in information systems/computer operations, since the type of variable-printing business communications at issue is handled basically as another form of computer-printing output. The mailing function is secondary and tends to vary little from other corporate mailroom challenges, including those of efficiently inserting enclosures and stuffing envelopes. The final interviewing sample is shown in Exhibits I-6, I-7, and I-8.

Given the relatively high time-expense of cold calling to secure interviews, it proved fortunate that patterns in the nets became clear before the full complement of those interviews was fulfilled. Further nets' interviews would have wasted time and resources without significantly affecting the results.

EXHIBIT I-6

## Telecommunications: Interviewing Sample

- Planned for 30 interviews
  - 15 in the telephone segments of independents, RHCs/BOCs, non-AT&T IXCs, and cellulars
  - 10 in the nets
  - 5 in the CATVs
- Stopped after 24 interviews
  - 14 in the telephone segments
  - 5 in the nets
  - 5 in the CATVs
- Two reasons for stopping early
  - MCI and US Sprint could not be penetrated for interviews and were identified as poor opportunities
  - Nets pattern became clear early: poor opportunities
- Average interview length: about 20 minutes

Given the importance of computer printing to the variable-imaging business communications under investigation, information services and data processing are heavily represented in the interview sample. Half of the interviewees are senior-level vice presidents or directors, with directors in this industry judged to be generally next-ranked below vice presidents and above managers. Despite such high levels, all interviewees are well informed about their variable-imaging functions, although at senior levels some could not provide document-count figures. A number of interviewees know less about mailing functions. Few interviewees in this industry proved especially effective, in general, at "fantasizing" about what they would like to see—and, by inference, potentially paying for—in five years.

EXHIBIT I-7

## Telecommunications: Companies Interviewed

- Independents
  - Alltel
  - Centel
  - CP National
  - GTE/Midwestern Telephone Operations
  - Telephone and Data Systems
- RHCs/BOCs
  - Michigan Bell Telephone
  - Pacific Bell
  - Southwestern Bell Telephone
  - US West
- Cellulars
  - Centel Cellular
  - Cybertel
  - Metro Mobile CTS
  - Radiofone
  - US West Cellular
- Nets
  - Compuserve
  - Dialog Information Services
  - Dow Jones News/Retrieval
  - Official Airlines Guide—Electronic Edition
  - TYMNET/McDonnell Douglas Information Services
- CATVs
  - American Television and Communication
  - Jones Intercable
  - Paragon Cable of California
  - TCI/Tele-Communications Inc.
  - Viacom Cable

EXHIBIT I-8

## Telecommunications: Categories of Interviewees

- Functional areas interviewed
  - 14 information services/data processing
  - 8 finance
  - 2 customer service
- Titles interviewed (roughly ranked)
  - 12 vice presidents/directors
  - 9 managers
  - 3 at operations levels

Note: All interviewees know variable-image printing well; some know less about mailing

III

# Executive Overview

II

# Executive Overview

INPUT conducted telephone interviews with executives and managers from 24 telecommunications companies, with a majority from the telephone-related segments of independent telephone companies (independents), regional holding companies/Bell operating companies (RHCs/BOCs), and cellular telephone companies (cellulars), and a minority from the nontelephone segments of network-based computer service companies (nets) and cable TV companies (CATVs). Half the interviewees were senior-level executives, the rest midlevel managers. Most interviewees were from information systems or data processing.

Interview results as to current and future outsourcing of billing—the only basic business printing and mailing application found—fall into a strictly bipolar distribution: all cellulars and CATVs interviewed outsource some or all billing today and will do so in the future; but virtually no independents, RHCs/BOCs, or nets do so now or plan to do so in the future. See Exhibits II-1a and II-1b. Two primary reasons for not outsourcing on the part of the independents, RHCs, and nets are long histories of successful in-house billing operations coupled with recent successes in implementing laser printing for this key high-volume application. Further, INPUT believes that others may share the concern about outsourcing volunteered by one interviewee, a BOC: very strong union presences (the Communications Workers of America, in most cases) at the RHCs/BOCs and independents might preclude significant outsourcing without major union strife.

Few real problems are cited by interviewees, although some desired improvements are identified. Future "fantasies" generally concern various forms of all-electronic billing.

Of several business communication applications considered during interviews, only one—billing—was confirmed as universally mission-critical to operation of the telecommunications company's business.

EXHIBIT II-1a

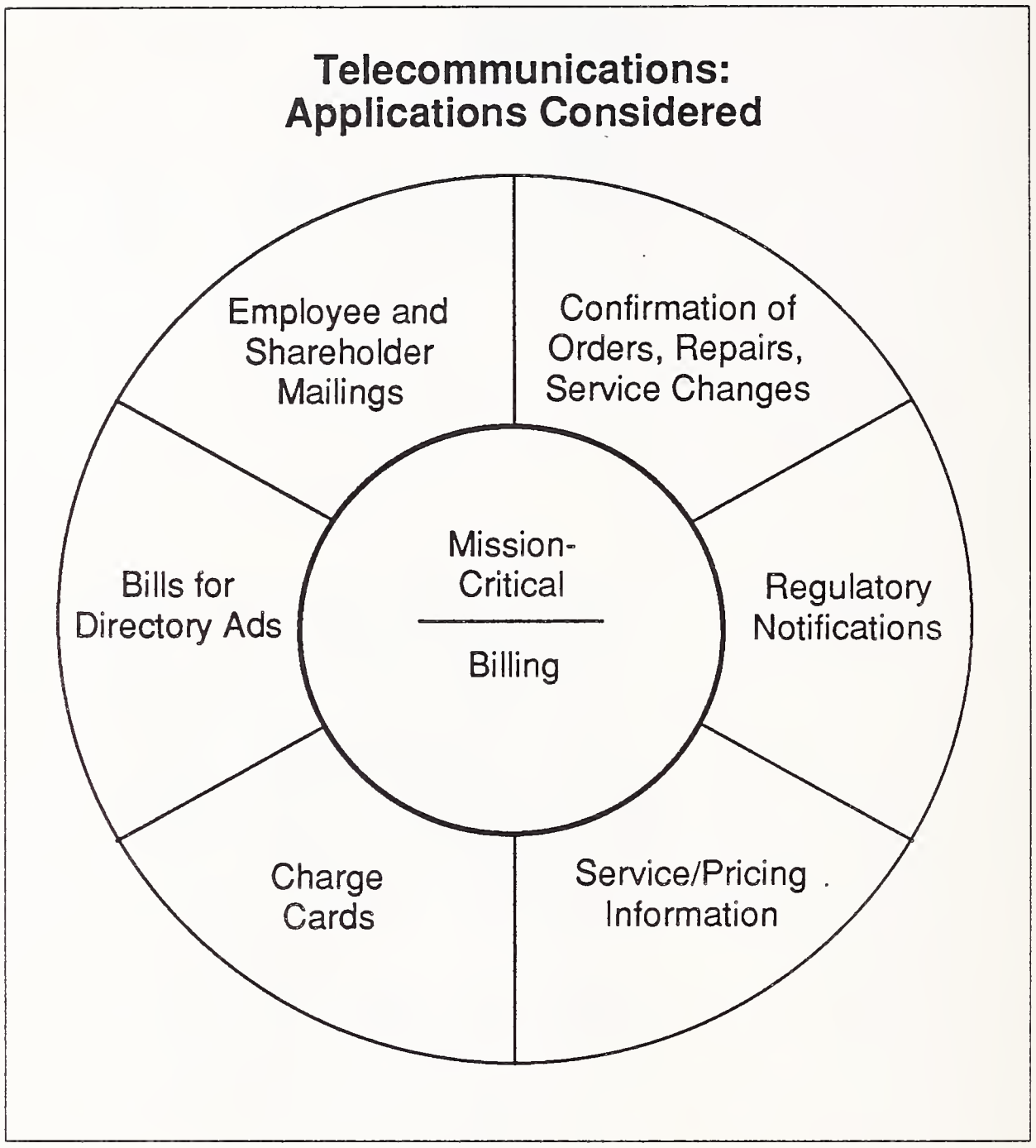



EXHIBIT II-1b

**Telecommunications:**
**Willingness to Outsource**
**Basic Printing/Mailing**

| | Percent |
|---|---|
| Current (Actual) Practice | 46 |
| Willing to Consider in Future | 46 |

## A

### Recommendations Summary

Note, as discussed in the Preface, that the recommendations summarized here are limited to the perspective of a single industry in this multi-industry project.

INPUT recommends that Moore IDS primarily target application opportunities defined as enhanced services—which will require new information services technologies—as follows:

- Billing services based on electronic funds transfer/automated clearing house (EFT/ACH) capabilities
- Packaged billing and collection services

Secondarily, Moore IDS may want to target application opportunities defined as basic services—which can be handled with printing, mailing, and information services technologies already installed by Moore IDS—as follows:

- Billing

As a third and lower priority, Moore IDS may want to consider the opportunities outlined for corporate billing services based on electronic data interchange (EDI) capabilities.

## B

### Application Opportunity Size

A methodology is applied to develop rough opportunity sizing measures for quantitative comparison of these applications. This provides Moore IDS with a measure of total latent potential expenditures for the service without regard to issues such as market development, rate of adoption, in-house versus external solutions, competition, and so on. See Exhibits II-2 and II-3.

EXHIBIT II-2

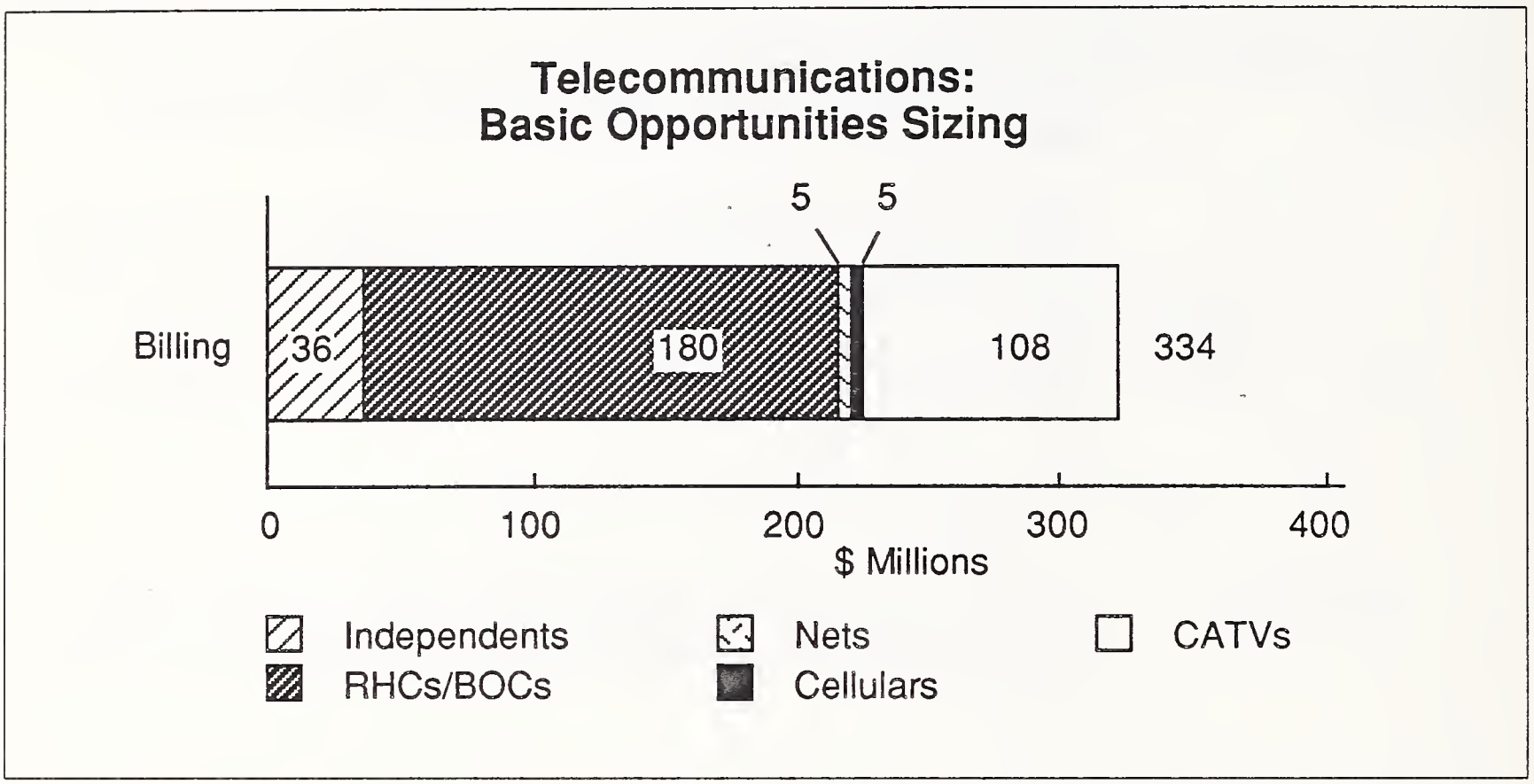
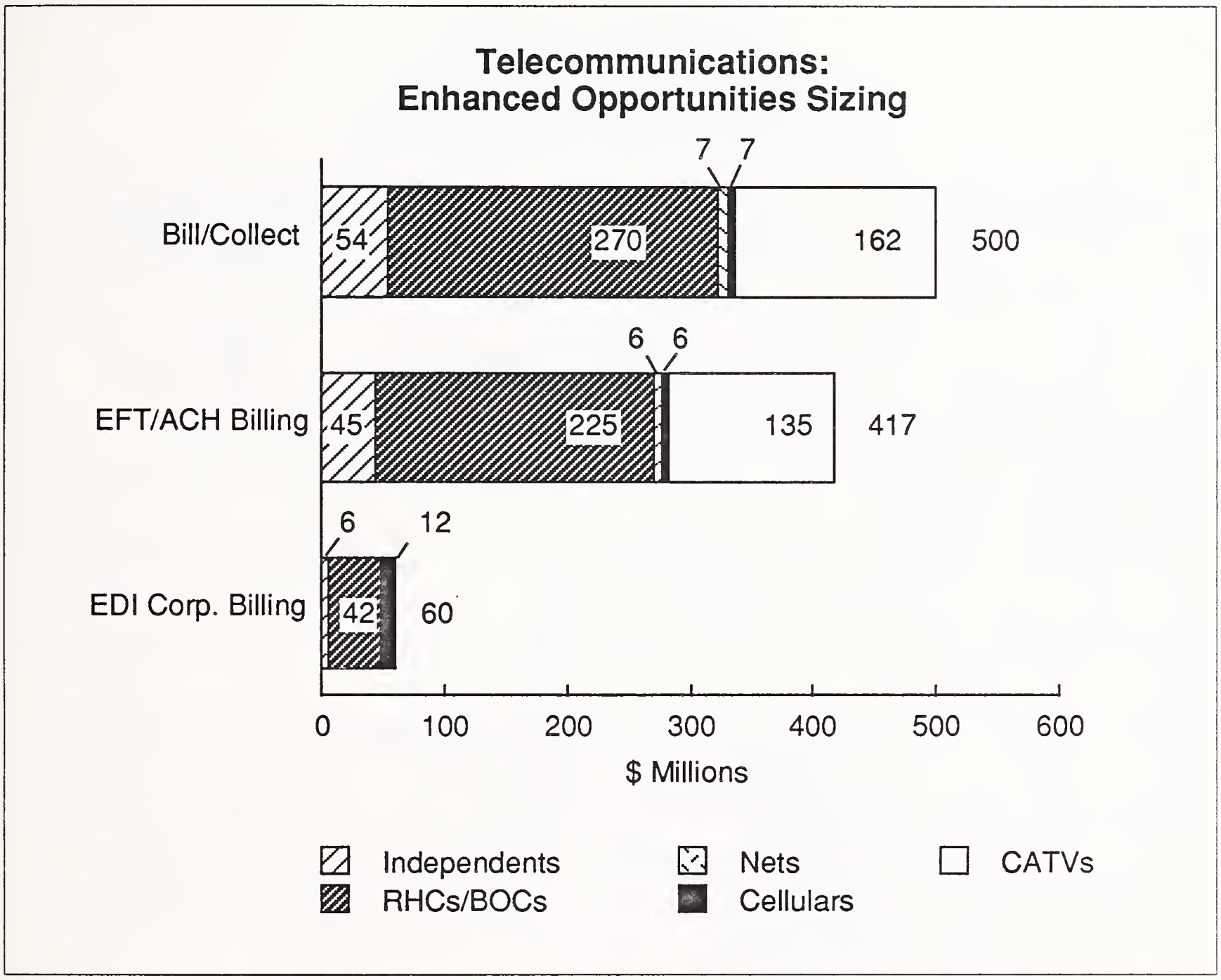

Telecommunications:
Basic Opportunities Sizing
5
5
Billing
36
180
108
334
0
100
200
300
400
$ Millions
Independents
RHCs/BOCs
Nets
Cellulars
CATVs

EXHIBIT II-3




## C

**Application Opportunity Attractiveness**

Exhibits II-4 and II-5 use a standard rating methodology to factor the opportunity size calculated with two other key criteria distilled from the interviews: telecommunications companies' willingness to outsource and their level of "pain or problem," each with respect to a particular application.

EXHIBIT II-4

## Telecommunications: Attractiveness Ratings of Basic Services Opportunities

| Application Opportunity ($ Millions) | | Criteria Ratings (range: 1 = negative to IDS, 5 = positive) | | | Overall Attractiveness (range: 1 = lowest, 125 = highest) |
|---|---|---|---|---|---|
| Type | Size | Relative Size X | Willingness to Outsource X | Level of Pain or Problem | = Attractiveness Rating Value |
| Billing | $334 | 3 | 2 | 2 | 12 |
| Total Basic | $334 | | | | 12 |

As shown, a five-point rating scale is applied to each criterion, where "1" indicates the least attractive measure of a criterion and "5" shows a very positive measure. Rating each of the criteria and then multiplying the ratings (the multiplication shown in the tables as "Relative Size X Willingness to Outsource X Level of Pain or Problem") produces a "Rating Value" that represents the overall attractiveness to Moore IDS, in a fashion that combines the quantitative opportunity-volume sizing with the other two—essentially qualitative—criteria.

This analysis indicates that opportunities of roughly equal size can have different levels of attractiveness. It is noteworthy that the enhanced (information services-based) opportunities facing Moore IDS in the telecommunications industry are rated over four times more attractive than basic services to this vertical market (52 versus 12 total rating points).

EXHIBIT II-5

## Telecommunications: Attractiveness Ratings of Enhanced Services Opportunities

| Application Opportunity ($ Millions) | | Criteria Ratings (range: 1 = negative to IDS, 5 = positive) | | | Overall Attractiveness (range: 1 = lowest, 125 = highest) |
|---|---|---|---|---|---|
| Type | Size | Relative Size X | Willingness to Outsource X | Level of Pain or Problem = | Attractiveness Rating Value |
| Bill/Collect | $500 | 3 | 3 | 2 | 18 |
| EFT/ACH Billing | $417 | 3 | 4 | 2 | 24 |
| EDI Corp. Billing | $60 | 1 | 5 | 2 | 10 |
| Total Enhanced | $977 | | | | 52 |

## D

### Target Audience of the Enterprise Served

Exhibits II-6 and II-7 organize opportunity size and attractiveness measures by the target audience of the applications considered. While this is done primarily for purposes of later cross-industry analysis at the conclusion of INPUT's research project, it is noteworthy now that all applications in the telecommunications industry address billing-related customer communications.

EXHIBIT II-6

## Telecommunications: Opportunity Size by Target Audience ($ Millions)

| Type of Service | Target Audience | | | | | Total |
|---|---|---|---|---|---|---|
| | Owners | Employees | Customers | Suppliers | Internal Efficiency | |
| | | | Business / Consumer | | | |
| A. Basic | | | Bills (334) | | | |
| Subtotal | | | (334) | | | (334) |
| B. Enhanced | | | EDI (60) / Bill/Collect (500) / EFT/ACH (417) | | | |
| Subtotal | | | (60) / (917) | | | (977) |
| Total | | | (60) / (1,251) | | | (1,311) |

EXHIBIT II-7

## Telecommunications: Opportunity Attractiveness by Target Audience (Attractiveness Rating Scores)

| Type of Service | Target Audience | | | | | |
|---|---|---|---|---|---|---|
| | Owners | Employees | Customers | Suppliers | Internal Efficiency | Total |
| A. Basic | | | Business: Bills (12) / Consumer: | | | |
| Subtotal | | | (12) | | | (12) |
| B. Enhanced | | | EDI (10); EFT/ACH (24); Bill/Collect (18) | | | |
| Subtotal | | | (10) / (42) | | | (52) |
| Total | | | (10) / (54) | | | (64) |

E

New Sales and/or Delivery Mechanisms Required

A range of new sales and delivery mechanisms will be needed for Moore IDS to.offer enhanced services, as shown in Exhibit II-8.

Opportunity-specific new information services technologies required for the enhanced service opportunities are identified, and a wide range of potential firms for alliances and/or acquisitions is noted.

In addition to application-specific sales expertise, these enhanced services will require a conceptual "solution sell" to a higher organization level than is Moore IDS' current practice.

EXHIBIT II-8

## Telecommunications: New Sales and Delivery Mechanisms Required

| Opportunity | Sales Expertise | Printing Equipment | Information Technology | Alliances/Acquisitions |
|---|---|---|---|---|
| Bill/Collect | Lockbox knowledge | (None) | Lockbox accounting and reporting systems | Lockbox vendor(s)<br>NYNEX<br>MOBILOG<br>Cable Data<br>Cable Services Group (AMEX) |
| EFT/ACH | EFT/ACH knowledge | (None) | EFT/ACH network connections processing accounting | EFT/ACH<br>• govt. authorities<br>• service bureau(s) |
| EDI billing | EDI knowledge | (None) | EDI translation/ store-and-forward | Geisco<br>TYMNET<br>Electronic Data Systems<br>Computer Sciences Corp.<br>National Data Corp.<br>Ordernet |

## F

## Threats and Opportunities

Exhibit II-9 lists several environmental threats and opportunities relevant to the applications outlined above for the telecommunications industry. Note that radical regulatory change in the options open to RHCs/BOCs could prove either a threat or an opportunity to them as companies, depending on the directions taken: continued or tightened restrictions on their ability to offer computer-based services over telephone lines, for example, would be a threat, whereas regulatory permission to offer or take over local cable TV services would be a major new opportunity. A postal rate increase and general trend in outsourcing DP functions are noted as having the most significance for Moore IDS. Fiber optic technology—especially if coupled with shifting cable TV regulations as to its integration with telephone services—is the wild card from technical, regulatory, and timing standpoints.

EXHIBIT II-9

### Telecommunications: Environmental Threats and Opportunities

- Threats
  - Negative changes in RHC/BOC regulations
  - Successful market entry into telecommunications by computer companies
  - New technologies (e.g., cellular telephone) erode current markets (e.g., basic wired telephone service)
  - Rapid recent growth of cellular telephone service levels off
  - Postage may rise 25% in 1991
- Opportunities
  - Positive changes in RHC/BOC regulations
  - New fiber optic technology radically widens the range of feasible telecommunications services
  - Outsourcing of DP functions is increasing; for example, Kodak contract with IBM (all industries)
  - Other new technologies open new markets

## G

## Competition

According to those interviewed, a bipolar split exists as to the use of outside vendors for basic billing applications.

Among one group—the independents, RHCs/BOCs, and nets—the critical competition for Moore IDS, both as to new sources for current basic applications and enhanced services opportunities, is the in-house organization. This group of telecommunications companies in most cases has successfully upgraded variable-image printing to laser printer capabilities in the last few years and is not interested in seeing in-house operations challenged by an outside vendor like Moore IDS.

In the other group—the cellulars and CATVs—strong outsourcing competition exists now, in local form for the cellulars and in national form offered by two dominant vendors for the CATVs. Moore IDS' penetration in either of these market segments will require a strategy to supplant or otherwise compete with this competition, perhaps by acquisition of a leading billing service vendor in the case of the CATVs.

Additional enhanced services competition is likely from alliance/acquisition targets listed in Exhibit II-8.

# Market Opportunities

III

# Market Opportunities

Several leading application opportunities for Moore IDS have been identified.

Before discussing these opportunities, however, it will be useful first to set the stage by summarizing findings about outsourcing by telecommunications companies today, as well as interviewees' expressed attitudes about future outsourcing and their descriptions of problems they now face or improvements they wish to make.

## A Introduction

Telecommunications companies interviewed fall into two distinct categories as to current outsourcing of monthly bills to customers, the only significant variable-image business communication application identified. See Exhibit III-1.

This bipolar distribution can be interpreted as follows: the established, traditional telephone and network-based businesses have evolved sophisticated in-house billing systems over many years; while the newer, often higher-growth cellular telephone and cable TV businesses have chosen to contract out this administrative function so as to focus corporate energies on developing and growing their technology-based services. In the first group, only one large, well-established net interviewed outsources billing now.

EXHIBIT III-1

## Telecommunications: Printing and Mailing Outsourcing Today

- Bipolar distribution
  - Only 1 in 14 independents, RHCs/BOCs, or nets interviewed now outsources the printing and mailing of monthly bills
    - ° Outsourcer was one of the largest and oldest nets: CompuServ
    - ° In-house RHC/BOC billing is split: some BOCs handle independently, but increasingly each RHC handles own contract for all its BOCs
  - In contrast, 10 of 10 cellulars or CATVs interviewed now outsource all or some billing
    - ° For CATVs, just 2 vendors dominate outsourcing
    - ° CATVs, who use geographically remote national vendors now, agree that printing/mailing location is not significant
    - ° Cellulars, who use local shops, generally believe that local service is critical
- Several interviewees outsource W-2s and 1099s

A note about in-house billing by the RHCs/BOCs: Before the consent decree, AT&T and the local telephone companies were one and the same corporate entity, and billing was integrated. After the consent decree, most local billing was at first left to the BOCs as a local, regulated-business function. Increasingly, however, the parent RHC to several BOCs is taking this over as an RHC function, on contract for each BOC. To the customer, this often still looks like billing by the BOC itself.

Especially noteworthy from a competitive standpoint is that CATV interviewees consistently report that just two major vendors dominate CATV billing outsourcing: number one is Cable Data and number two is the Cable Services Group division of American Express, formerly a division of a firm that American Express purchased, First Data Resources.

Note also that many of the cellulars bill through local printing and mailing houses, not national firms.

As to location of the facilities of the printing/mailing vendor, CATVs already know through experience that remote service is not a significant problem. Cellulars, in contrast, would need to be educated about this, as they generally conclude from their experience to date with local vendors that such geographic proximity is critical.

A few of the 24 telecommunications companies interviewed report outsourcing their yearly W-2s and 1099s; many others now handle this effectively on laser printers.

When questioned about the future outsourcing of printing and mailing, respondents again fall into a bipolar distribution along the same lines, as shown in Exhibits III-2a and III-2b. The independents, RHCs/BOCs, and nets—with well-established in-house business communications operations—see very little likelihood of outsourcing. In contrast, the planned question about additional outsourcing in the future generally is not applicable to the cellulars and CATVs, since all already outsource variable-image printing and mailing functions—their bills—with 90% of them reporting that they already do so to the maximum extent possible.

EXHIBIT III-2a

**Telecommunications: Future Outsourcing of Printing and Mailing—Independents, RHCs/BOCs, and Nets**

| Question | Average Rating |
|---|---|
| "How likely are you to outsource any of the printing and mailing operations we have been discussing?" | 1.0 |

1 2 3 4 5

Not Likely Very Likely

Note: All 14 ratings = 1, very unlikely

EXHIBIT III-2b

## Telecommunications: Future Outsourcing of Printing and Mailing—Cellulars and CATVs

- All interviewees now outsource all or some printing and mailing of bills
- Therefore, "future likelihood of additional outsourcing" question is not applicable

Reasons against outsourcing printing and mailing cited by independents, RHCs/BOCs, and nets are summarized in Exhibit III-3.

EXHIBIT III-3

## Telecommunications: Reasons Against Future Outsourcing of Printing and Mailing—Independents, RHCs/BOCs, and Nets

- Almost all (13 of 14) have one or multiple large laser printers in-house
- In-house operations are smooth, especially printing
- Volume is high, costs are low
- Control of billing, especially timing, is critical
- One interviewee: "Let's make bills electronic, not outsource their printing"
- No interest in facilities management

Since cellulars and CATVs substantially outsource printing and mailing to the maximum now, this question does not apply to them.

Among the independents, RHCs/BOCs, and nets surveyed, virtually all (13 of 14) handle some or most variable-image printing with high-capacity in-house laser printers, either the Xerox 9700 series or the IBM 3800 series. Computer-output impact printing has effectively disappeared for these high-volume functions. Given the very successful transitions to lasers and the high volumes that most report, interviewees indicate that printing operations are generally smooth and costs relatively low.

Several cite the need for high levels of control of monthly bills, especially as to their timing for going into the mail.

There is a near-universal lack of interest in facilities management.

Exhibit III-4 lists significant problems that interviewees cite and desirable improvements.

Most of the citations here are desired improvements, as a very high proportion of interviewees claim that no significant problems plague them now. Several CATVs use both of the leading vendors, and one keeps problems away by playing off one against the other through a competitive split of the billing business.

EXHIBIT III-4

## Telecommunications: Problems and Improvements Identified

- Over 80% (20 of 24) say, "All is well, no problems..."
- "I keep our CATV billing service level high by playing off the competing vendors against each other: each has only half of our business."
- 2 cellulars: "Given growth, (it) may be cost-effective to bring billing in-house soon."
- "Vendor is not responsive enough in implementing changes we need in the billing software."
- "Billing vendor does not flexibly adapt management reports to our needs."
- "Customers need access to real-time information on their billing status, which we cannot provide through our outside vendor."
- "CATV billing vendor has trouble handling transfer of service records to reflect a new location when a customer moves."
- An RHC: "Our in-house telephone billing system needs a new capability for each BOC to add custom messages easily."
- "We should bar-code our bills for faster payments processing."
- "Corporate telephone customers need options for custom formatting of their bills."
- "Many business customers are ready for electronic bills."
- "Large businesses need the option of getting billing detail on tape or disk."
- "Our old telephone billing software needs a major upgrade to include relational data base capabilities."
- "Even with laser printing, our costs are too high."

INPUT deems it especially noteworthy that two of the five cellulars interviewed now see recent and future growth as possible justification for moving billing operations from a local printing and mailing house to in-house. Fast growth is typical of the cellular telephone industry in general, as is vending of billing operations to local vendors by those interviewed. These two responses may indicate an important competitive opening for a national vendor like Moore IDS. See Exhibit III-6 (page 31) for further discussion of this opportunity.

Billing-vendor responsiveness and flexibility in handling software changes and providing new forms of management reports is cited by several interviewees as needing improvement. This appears to be a result of a "least common denominator" approach to billing and reports that may have been adequate in the past but will not meet the competitive needs of many telecommunications companies in the future.

Two other problems show up with outside vendors. First, when billing data is simply collected—but not processed—by the telecommunications company, up-to-date billing information is not available to respond to client inquiries unless the company is on-line connected to the data base maintained by the vendor. Second (and surprisingly), at least one CATV billing vendor has trouble handling the transfer of cable TV service billing for a customer who moves from one location to a new house.

In at least one case, RHC billing for its local BOCs needs an improved capability for the BOC to easily control the content and formatting of a BOC-specific (although not customer-specific) message on each bill. At present, this requires action by the RHC on request of the BOC.

One vendor recognizes the value of barcoding payment stubs but has not yet implemented this, perhaps due to out-of-date, inflexible billing software that lags behind its laser printing capability.

Several companies among the independents, RHCs/BOCs, and cellulars in particular indicate dissatisfaction among corporate customers at the inability to provide fully customized billing and details—for example, to ease or improve their ability to rebill departments for services. Inflexibility of both in-house software (for independents and RHCs/BOCs) and outside vendors (for cellulars) appears to be the reason. Several cite their customers' readiness for electronic billing of some form versus paper-based billing, and a number cite the specific value to business customers of getting billing detail on tape or disk each month. Although not volunteered, perhaps an electronic communication transfer of detail data would prove even more valuable.

As noted earlier, some RHC/BOC billing systems are still in "post-consent-decree" transition and thus may be still operating with relatively out-of-date software. They may lack, for example, relational data base capabilities that would boost report-writing capabilities.

One interviewee finds laser-printing efficiencies inadequate from the standpoint of continuing high overhead costs for the relatively expensive equipment.

## B

## Leading Application Opportunities

### 1. Basic Services Opportunities

Exhibit III-5 summarizes the characteristics of the key basic business mailing application in telecommunications: monthly bills.

EXHIBIT III-5

**Telecommunications: Characteristics of the Key Basic Application**

- Bills
  - Bills and backup details are almost always a single, integrated multipage document
  - Length of bill can vary from one or two pages, into the hundreds, depending on the market segment and a customer's volume as shown in a particular month's detail
  - For the highest-volume telephone sectors, 7 "panels" is the most often mentioned rough estimate of average length (Note: Telephone bills are printed as 4- by 5-inch "panels," not 8-1/2- by 11-inch full pages)
  - For all market sectors combined, the overall volume-weighted average length is 3 pages (8-1/2 by 11 inches each) per bill
  - For all interviewees, the average monthly mailing volume is 3 million bills per company
- Daily print runs, throughout a monthly billing cycle
- In addition to return envelopes, some bills may include one or more other enclosures

As indicated, an average page count for each telecommunications bill is hard to arrive at from wide-ranging interview information. Based on the data summarized here, INPUT will use an average page count of 3 pages (8-1/2 by 11 inches each) per bill and 3 million bills per month per company for later unit pricing that will drive the opportunity quantifications.

INPUT finds two distinctly different types of billing opportunities for Moore IDS in the telecommunications industry, as shown in Exhibit III-6.

EXHIBIT III-6

## Telecommunications: Two Types of Opportunities in Billing

- Recipients: customers of the telecommunications company
- Opportunity Type One—sell independents, RHCs/BOCs, and nets by educating them to shift from in-house to an outside vendor
  - Special issue: in-house unions (independents and RHCs/BOCs)
- Opportunity Type Two—sell cellulars and CATVs by unseating established outside vendors
  - Local print-and-mail shops for cellulars
  - Two leading national vendors for CATVs
- Competitive Angles
  - Electronic transmission of billing data to Moore IDS
  - Flexibility of billing formats for customers
  - Electronic billing details for customers
  - Management reports for the telecommunications company

The recipients of bills are always the customers of the telecommunications company. As detailed below, some significant differences exist between the needs of corporate customers versus consumers.

The independents, RHCs/BOCs, and nets are the segments of the telecommunications industry that have firmly established, cost-effective, laser-printer-based in-house billing operations. To compete in these segments, Moore IDS must meet the challenge of educating these segments on the value of outsourcing what they regard as a lifeblood corporate function: the translation of massive volumes of monthly telecommunications sessions into organized bills that customers pay almost without question.

In the pre-consent-decree days, for example, AT&T telephone companies were regarded as rock-solid cash-flow machines with profits protected by their utility status. INPUT's interviews suggest that the RHCs/BOCs in particular may now cling to their established billing functions as comforting reminders of those less-uncertain days. Yet, with RHCs tending increasingly to take over billing from their BOC subsidiaries, an opening may exist for Moore IDS to make its case for vending out billing at top-management levels of the seven RHCs, which profess publicly to be fully market-driven and thus can be assumed to be open to any business case. Any RHC that has recently paid for and implemented a new region-wide billing system, on the other hand, may be unwilling to consider such an option in the short term.

The status of the independents, however, has not changed substantially, except in terms of their increasing willingness to venture beyond "POTS"—Plain Old Telephone Service. Although the interviewing sample here is too small to determine this, large versus small independents may prove to be distinctly different subsegments in which Moore IDS could try an educational sell about the value of outsourcing billing functions.

Special note on both the RHCs/BOCs and independents: Union presence is very strong (confirmed by one BOC interviewee), and those unions might organize so as to make it difficult or impossible to outsource the central billing function.

Based on the interviews conducted, nets appear to have their "corporate ego" bound up with their billing functions: whether as computer-based networks or computer-service vendors, the nets see themselves as the masters of computerization who can easily translate complex data flows into bills for the customers' transactions. INPUT does not see the exception of CompuServ's full outsourcing of billing as significant: Compuserve is an established market leader in both size and reputation that actually does not send out bills in the conventional sense, but rather bills

monthly transactions directly to consumers' credit cards. Most other nets are both smaller and much more traditional in their billing practices. (Note that electronic billing opportunities will be discussed later, in terms of enhanced applications.)

In sharp contrast to the independents, RHCs/BOCs, and nets, the market segments represented by the cellulars and CATVs are well-acquainted with the pros and cons of outsourcing. Several distinct competitive opportunities exist for Moore IDS to unseat this competition.

As noted earlier, the cellulars interviewed generally outsource billing to local vendors, not national organizations, and some are considering whether growth-based economies of scale will soon justify bringing billing operations in-house. Moore IDS may find it can make a strong case as a national vendor against both local billing houses and the in-house alternative. In particular, the consolidation in recent years of financial control of local cellular telephone franchises into a relatively small number of national groups may provide an ideal entree—at the national, parent company level—for Moore IDS to help the cellulars' transition from local outsourcing of billing to a vendor with national capabilities.

CATVs, in contrast, universally report outsourcing to one (or both!) of two leading national billing vendors: Cable Data and the Cable Service Group division of American Express. The good news for Moore IDS is that CATVs recognize the value of working with a national vendor. The bad news, of course, is that these giants are very well entrenched in the industry and will be difficult to unseat.

Especially for the cellulars and CATVs (and perhaps also, but to a lesser extent, for the independents and RHCs/BOCs, if not the ego-blinded nets), the desired service improvements reported earlier provide some cues for competitive approaches by Moore IDS.

For an all-electronic billing environment, for example, Moore IDS could offer to replace traditional computer-tape transfer of billing information with direct electronic transmission of billing data from the telecommunications company to Moore IDS, either in the form of updates to a customer status-and-usage data base maintained by Moore IDS or in the form of the billing data itself.

For corporate customers, the ability of the telecommunications company to more flexibly format monthly bills and the accompanying details (for example, to group transactions by the customer's departments for re-billing or accounting purposes) is a continuing sore point, according to interviewees. This is true both for in-house billing systems that are not up-to-date in terms of flexibility, and for billing vendors who try to meet

a wide range of needs of telecommunications companies and the companies' customers with a relatively limited set of billing options. Moore IDS' strength in offering maximum billing format flexibility will be an important competitive strength.

Similarly, more and more corporate customers are demanding that the detail portion of the bill be delivered electronically, in computer-readable form, not as the hundreds or even thousands of pages that a corporate phone bill can require. Again, this is for rebilling or accounting, or even for reconciliation with the customer's computer-based private branch exchange (the on-premises "electronic switchboard") records of the month's calls. This electronic service opportunity will be discussed further in the later discussion of enhanced services opportunities for Moore IDS.

Finally, the telecommunications company itself needs management reports on the services for which it bills customers, and these are reported by some interviewees to be deficient—especially as to flexibility and options—in some cases, particularly from outside billing vendors.

INPUT notes in passing that none of the other basic printing and mailing applications discussed with interviewees is a high volume, regular variable-imaging application that would be attractive to Moore IDS. See Exhibit III-7.

## 2. Enhanced Services Opportunities

This section will focus on enhanced application/services opportunities, as defined in Exhibit I-1.

### a. Introduction: Current Outsourcing and Future "Fantasies"

Two topics will serve to set the stage for projecting enhanced service opportunities: outsourcing of the front- and backend functions that surround the central variable-imaging function, and "fantasies" that interviewees have about ideal future systems solutions.

As Exhibit III-8 indicates, with the exception of the CATVs, most interviewees seem to jealously guard the in-house information systems functions that provide the front-end data source for variable imaging. However, it should be noted that many interviewees are information services professionals with corporate "turf" to protect.

EXHIBIT III-7

## Telecommunications: List of Other, Non-Attractive Applications

- Confirmations of orders, repairs, service changes (no consistent pattern)
- Regulatory notifications (printed on bills)
- Customer-specific service/pricing information (printed on bills)
- Charge cards (found in RHCs/BOCs only; frequency of distribution to subscribers is irregular)
- Bills for directory advertising (yearly, not monthly; often integrated with telephone bill)
- Mailings to employees and shareholders (little is computer-generated)
- W-2s and 1099s (mostly now on laser printers; are already a peak-load problem for Moore IDS)

EXHIBIT III-8

## Telecommunications: Current Outsourcing of Enhanced Applications Functions

- Only CATVs outsource any front-end information systems applications, specifically the maintenance of the customer transaction data base
- Many telecommunications companies outsource just the backend collection function, through lockbox services
  - Receive a daily computer tape of transactions

For the CATVs, the two dominant billing vendors have effectively sold the cable TV industry on the value of letting the billing vendor's computer system be the processing and storage system for all customer accounts and change-of-service data. The cable TV company's role is to provide notification of new or terminated accounts, or changes in a subscriber's optional services. In some cases, interviewees report that this takes place through billing-vendor workstations or terminals installed at the CATV office location, rather than computer-tape transfers.

On the back end, lockbox collection services are relatively common, featuring rapid bank deposit and daily delivery of computer tapes of transactions to information systems.

Turning to interviewees' fantasies, as shown in Exhibit III-9, a number of interesting cues emerge about potential enhanced services.

As noted earlier, two cellulars now wonder if recent and near-future growth will soon provide economies of scale justifying the transfer of billing from outside vendors to in-house.

Use of lockbox services in the telecommunications industry is common, and wide variations are reported in the speed of posting receipts to the company's account, with obvious financial and competitive implications. There is no indication of any lockbox service yet offering the electronic transmission of collection data imagined here.

Typical—for those billing service vendors that do not place terminals or workstations directly in the office of the telecommunications company—is computer-tape transfer of monthly billing data to the vendor, rather than any form of electronic communication from the transaction-recording system to the billing system, as fantasized here. Even billing vendors with on-line input systems appear to offer relatively limited access to the resulting data base to the telecommunications companies they serve, far short of the flexible access for data analysis requested here. Note that this fantasy calls for the best of both worlds: a national owner of many systems wants both cross-system data available for executive reporting and local-system billing (at least in name and/or letterhead on the bill) to local customers.

A number of interviewees fantasize about automatic, computer-to-computer EDI-based billing and payment options for corporate customers, several noting that they have begun experiments with this but none indicating its full-scale implementation as yet. EDI standards in the telecommunications industry will be discussed later (in Exhibit III-13).

EXHIBIT III-9

## Telecommunications: Interviewees' Five-Year "Fantasies"

- Cost-Justifying In-house Operations
  - "We find it cost-effective to move both billing and microfiching of all bills, records, and reports from an outside vendor to an in-house operation."
- Lockbox Services
  - "The lockbox service posts transactions to our bank account faster than the 24 to 72 hours it now takes."
  - "Rather than tape transfer of lockbox payment data, I want electronic communication of the data in to me."
- Electronic Communication and Access
  - "We communicate our data out to the billing service electronically, not by sending tapes."
  - "We get direct access to the customer data base maintained by our billing vendor, and ability to use our executive information systems to develop custom management reports, and to cross-compare trends or spot patterns among our many local franchises ... yet maintain the current approach of providing bills from each franchise to their local customers."
- EDI
  - "EDI (electronic data interchange) -based billing and payment is available to all our corporate customers."
  - "Worldwide EDI standards make it easy to implement EDI with our corporate customers."

EXHIBIT III-9 (Cont.)

## Telecommunications: Interviewees' Five-Year "Fantasies"

- Billing Options
  - "We offer full customization of billing formats and details to meet the exact needs of each customer."
  - "Customers get the 'hot billing' they want: up-to-date account status—transactions to the moment—at any time."
  - "We make bills easier for our customers to understand."
  - "Customers require less backup detail for bills."
  - "We cut billing costs by cutting the tie between usage volume and charges."
- Bill Payment
  - "Consumers pay the bills we send by using their telephone keypad."
  - "Bills to consumers are just for reconciliation with preauthorized EFT/ACH (electronic funds transfer/automated clearing house) debits to pay current charges."
  - "Customers view transaction details and pay bills on home screens, rather than receiving our bills and sending checks to us."
  - "We bar code bills for remittance processing without keying."
- Billing-Vendor Service
  - "The billing service vendor provides an automated customer correspondence system to handle many typical customer questions, with responses variably including customer-specific data as required."
- Other
  - "We include more marketing pieces (ours and others') with telephone bills."

The fantasies on billing options reflect an undercurrent of perceived frustration on the part of telecommunications companies and their customers as to inadequate flexibility or range of billing capabilities available, whether through in-house billing operations or a vendor's service. A billing services vendor like Moore IDS would do well to base new services on detailed research into needs for new billing options to be built into the service.

A consistent bill payment fantasy is some form of electronic payment, whether through telephone-keypad input or a form of EFT/ACH preauthorized payment, perhaps with paper-printed or electronically displayed bills serving primarily for after-the-fact reconciliation. Surprisingly, bar coding of bill-payment stubs to ease payment processing is not yet universal in telecommunications.

INPUT has not undertaken any further investigation of whether the addition of the correspondence service fantasized here would be a practical or profitable system.

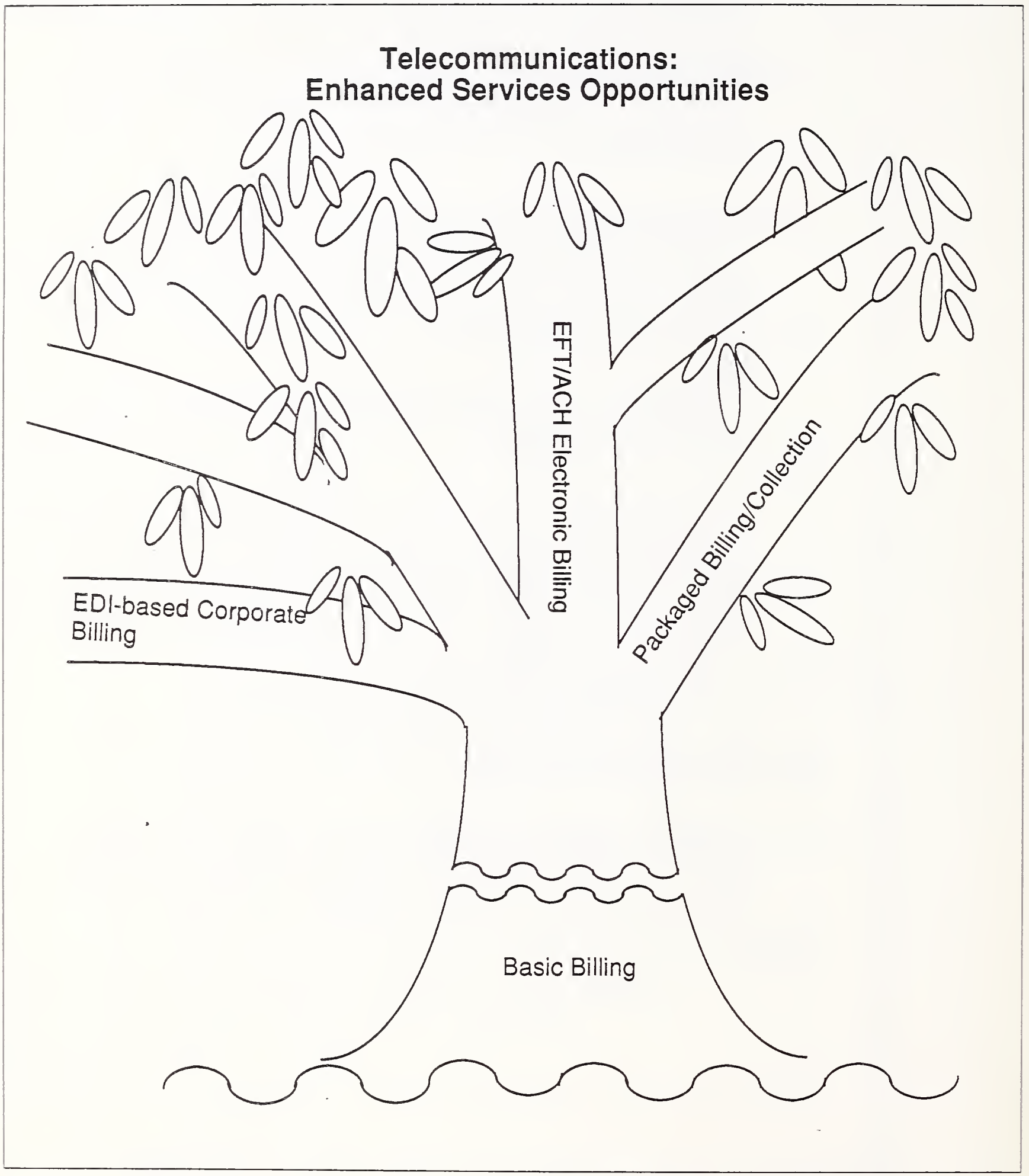
As virtually all households receive a telephone bill, the inclusion of other marketing pieces might seem natural, although INPUT suspects most RHCs/BOCs would see this as "betraying" their trusted relation with consumers. The fantasy actually comes from a net wondering about more promotion of their services and the other computer systems to which their service provides access.

### b. Enhanced Services Opportunities Overview

With that introduction, several enhanced services opportunities are summarized in Exhibit III-10.

Exhibit III-10 provides a graphic representation of several enhanced services opportunities open to Moore IDS in the telecommunications industry. See the next few exhibits for detailed explanations of each opportunity and their "branches of the tree" interrelations.

EXHIBIT III-10



The logic behind the opportunity outlined in Exhibit III-11 is three-fold.

EXHIBIT III-11

**Telecommunications: Packaged Billing and Collection**

- Accept electronic transmissions—from telecommunications company's computers to Moore IDS—of daily billing information
- Moore IDS provides printing and mailing
- Moore IDS/lockbox partner provides receipt and deposit of payments
- Moore IDS/lockbox partner provides rapid electronic transmission to telecommunications company of daily collection/deposit information (provided in the data format required by the telecommunications company's accounting system)

First, many telecommunications companies interviewed—the independents, RHCs/BOCs, and nets—generally are quite satisfied with current in-house premium billing operations and thus may not choose to outsource these alone, barring a Moore IDS price advantage that is unlikely because of in-house laser printers. Second, the cellulars and CATVs have well-established billing-vendor relations and may be unwilling to seriously consider changing vendors. Third, many telecommunications companies are already comfortable with their use of local or national lockbox services and can be approached from two standpoints: adequacy of the lockbox vendor's service levels (especially if it is a small, local vendor) such as timeliness of posting or communicating transactions, and/or the benefit of expanding this backend lockbox service into a comprehensive billing and collection service.

In any of these three cases, by packaging the billing service with the backend lockbox collection, deposit, and reporting functions, Moore IDS offers the telecommunications company a total solution that transforms billing into a hands-off, all-electronic "billing data out and payment credit in" function.

Moving to EFT/ACH, the electronic billing service described in Exhibit III-12 is the logical extension (and evolution over time) of the packaged billing and collection opportunity. As more customers opt for EFT/ACH-based premium payment, fewer bills are sent and there is less need for the collection/lockbox service. However, Moore IDS still adds value by sustaining the all-electronic solution: Moore IDS, not the telecommunications company, maintains the facilities to print premium bills and collect premium checks at a lockbox when necessary, once again packaging the next-generation solution.

EXHIBIT III-12

## Telecommunications: EFT/ACH Electronic Billing

- Telecommunications company makes a single daily electronic transmission of billing information to Moore IDS (who perhaps works with an EFT/ACH partner)
- There are several service options, as appropriate to the status of each customer:
  - Automatic EFT/ACH debit, with or without printed and mailed detail
  - Printing and mailing of a billing paper document, and telephone-keypad-based authorization by the customer of an EFT/ACH payment transaction
  - Printing and mailing of a billing paper document, and lockbox collection service
- Assumes Moore IDS partnership with/integration into EFT/ACH networks and facilities
- Assumes Moore IDS consulting (as required) to help telecommunications company inaugurate such electronic services
- Assumes Moore IDS management of the customers' instructions for EFT/ACH or paper billing

Note: Would fit well with "Packaged Billing and Collection" opportunity, above

Exhibit III-13 builds on the EDI fantasies reported by interviewees, including several interviews which indicate that limited experience with this new option is already being developed. Note that INPUT believes that EDI-based corporate billing represents an opportunity for Moore IDS among independents, RHCs/BOCs, nets, and cellulars, but not in the CATV (home-based cable TV) segment.

EXHIBIT III-13

**Telecommunications: EDI-Based Corporate Billing and Collection**

- Note: The EDI X.12 standard now is recognized in the telecommunications industry
- Corporate customers use their computers to receive and pay telecommunications bills, using EDI data formats and transmission standards
  - Optionally, customers receive electronic-form details for matching against electronic in-house transaction records

Across industries, EDI use generally takes one of two forms: direct company-to-company interchanges or service bureau intermediation between EDI partners. INPUT has learned from a standards association that established providers of EDI service bureaus, like Geisco (General Electric Information Services Company) and TYMNET/McDonnell Douglas Information Services (now a division of British Telecom), are now "making a mint" (on a per-transaction basis, although volumes are still low) providing EDI services to pioneering telecommunications vendors, using EDI-industry standard X.12 communications formats.

The optional notation here suggests a competitive angle worth exploring: modern PBX (private branch exchange) local switchboard systems are all-electronic in operation, and thus should be able to provide computer-readable data on telecommunications transactions, for automatic comparison and exception reporting against the EDI-transmitted billing detail. A PBX-equipped customer of a telecommunications company might consider such automated matching a tremendous benefit in validating the thousands (or hundreds of thousands) of telephone transactions each month, providing solid, cost-effective protection against overbilling—

either replacing current expensive manual-matching procedures or putting such cost-control procedures in place for the first time. As a service bureau vendor to many telecommunications companies, Moore IDS could profit from amortizing a one-time cost—adapting this billing-detail system to each PBX on the market—across a large number of companies reluctant to implement this individually.

## C

## Application/Service Opportunity Sizing and Ratings

The previous section detailed all the leading application opportunities, approaching the subject qualitatively. This section applies quantitative methodologies to place approximate numeric dollar-sizes on each opportunity and to rate them relatively.

Given the inappropriateness of market forecasting for these opportunities, Exhibit III-14 details the calculation methodology that INPUT is adopting as a working assumption, equating the sizing of each basic services opportunity with the size of today's estimated annual expenditures for such a basic application.

EXHIBIT III-14

**Telecommunications: INPUT Equates Basic Opportunity Size with Total Annual Expenditures on the Activity**

Formula:

$ Opportunity = (Total subscribers) X ($ price per subscriber per month) X (12 months)

Methodology:

- From industry and government data, estimated total number of subscribers in each telecommunications segment
- From Moore IDS, $ price per subscriber per month (a monthly bill), total subscribers, and 12 months per year, calculated total yearly expenditures—the total $ opportunity

The formula for calculating dollar opportunities this way starts from public data used to estimate the number of subscribers in each telecommunications segment. For each segment, this subscriber count is then multiplied by a Moore IDS-provided figure for unit-pricing such a monthly bill at the 3 page (8-1/2 by 11 inches each) per bill, 3 million bills per month per telecommunications company averages cited earlier (using a working assumption that such unit-pricing by Moore IDS is roughly equivalent to customers' in-house costs), and by the 12 billing months in a year, yielding a figure for the total yearly dollar opportunity size for the billing application in each market segment.

Exhibit III-15 shows the segment-by-segment result of applying this methodology. The RHC/BOC and CATV segments represent by far the largest segments, followed only at a distance by the independents.

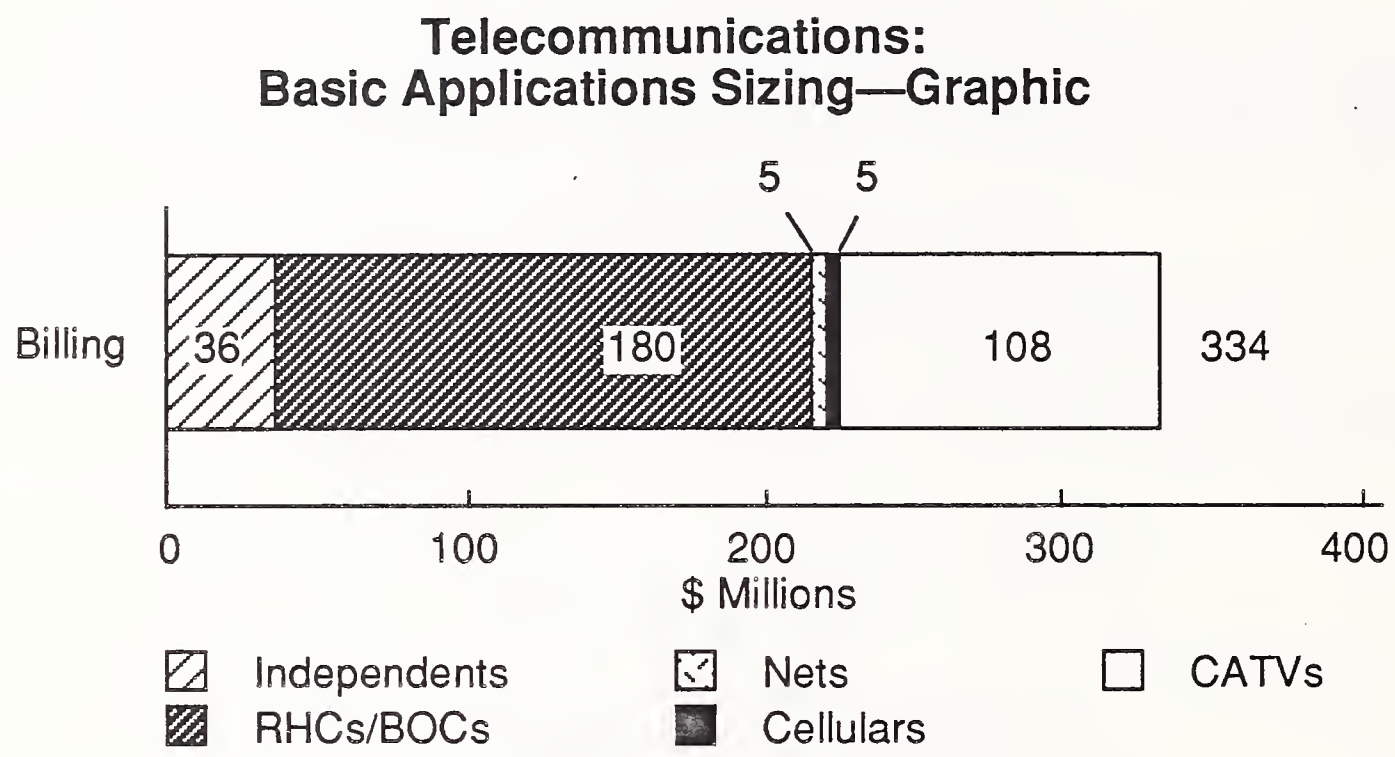
EXHIBIT III-15

## Telecommunications: Basic Applications Sizing—Numeric

| Application | Estimated Size, by Segment ($ Millions) | | | | | |
|---|---|---|---|---|---|---|
| | Independents | RHCs/ BOCs | Nets | Cellulars | CATVs | |
| **Bill** | | | | | | Totals |
| Est. 1988 subscribers | 15 | 75 | 2 | 2 | 45 | 139 |
| Assumptions: | | | | | | |
| $0.20 per bill | | | | | | |
| 12 bills per year | | | | | | |
| Sizing, $ value | $36 | $180 | $5 | $5 | $108 | $334 |
| **Total Bills Per Year** | 180 | 900 | 24 | 24 | 540 | 1,668 |
| **Total $ Values** | $36 | $180 | $5 | $5 | $108 | $334 |

Exhibit III-16 provides a visual summary of the relative sizes of the basic billing application among the telecommunications segments.

EXHIBIT III-16




In Exhibit III-17, INPUT uses a standard rating methodology to factor the opportunity size just calculated against two other key criteria distilled from the interviews: telecommunications companies' willingness to outsource and their level of pain or problem, each with respect to a particular application.

As shown along the top of the exhibit's table, a five-point rating scale is applied to each criterion, where "1" indicates the least attractive measure of a criterion and "5" shows a very positive criterion. Rating each of the criteria and then multiplying the ratings (the multiplication shown on the table as "Relative Size X Willingness to Outsource X Level of Pain or Problem") produces a "Rating Value" that represents the overall opportunity to Moore IDS in a fashion that combines the quantitative opportunity-volume sizing with the other two—essentially qualitative—criteria.

EXHIBIT III-17

## Telecommunications: Attractiveness Ratings of Basic Services Opportunities

| Application Opportunity ($ Millions) | | Criteria Ratings (range: 1 = negative to IDS, 5 = positive) | | | Overall Attractiveness (range: 1 = lowest, 125 = highest) |
|---|---|---|---|---|---|
| Type | Size | Relative Size X | Willingness to Outsource X | Level of Pain or Problem | = Attractiveness Rating Value |
| Billing | $334 | 3 | 2 | 2 | 12 |
| Total Basic | $334 | | | | 12 |

Relative size ratings are determined as follows:

| Size Range ($ millions) | Rating |
|---|---|
| 1-100 | 1 |
| 101-300 | 2 |
| 301-700 | 3 |
| 701-1,000 | 4 |
| >1,000 | 5 |

The rationale is that an application opportunity is of only limited strategic interest if its size is under $100 million, because a 10% development of the latent potential would be less than $10 million per year in Moore IDS revenue. Likewise, any opportunity over $1 billion is top rated (i.e., a "5") no matter how many billions of dollars it represents.

Moving to "willingness to outsource," interview results indicate the strictly bipolar distribution described earlier: independents, RHCs/BOCs, and nets are very unwilling to outsource—a rating of 1—while the cellulars and CATVs now generally outsource billing to the maximum—a rating of 5. To deal with this split, INPUT dollar-weights those willingness ratings for each segment, leading to the rounded "average willingness" used here—a rating of 2.

The "level of pain or problem" ratings here are subjective and relative INPUT judgments, based primarily on interviewees' comments. Whether they print and mail bills in-house or through an outside vendor, interviewees are generally quite satisfied with the current situation, with two exceptions: in cases of outmoded software in-house, and in instances of billing vendor inflexibility. On balance, INPUT judges their level of pain or problem with billing functions at the level of 2—slight, but still short of moderate, problems.

Given these ratings, INPUT rates the basic billing opportunity overall at the 12-point level. (Note: No cross-comparison of basic applications is made in the telecommunications industry because only one basic application exists—billing.)

There is an important implication of this methodology—while the highest relative rating value possible here is 125 (5 X 5 X 5), three moderate ratings of 3 each yields a product of only 27. Clearly, this is not 50% of the top rating of 125, and yet it is actually quite instructive: an opportunity that is totally positive to Moore IDS' interests in all ways (three ratings of 5 each) certainly should be far ahead of any moderately-sized application for which customers now express a moderate willingness to outsource and experience only moderate pain or problems.

For enhanced applications, Exhibit III-18 again represents a relative sizing of application opportunities, not a true market forecast. The difference, however, from the opportunity sizing provided for basic applications is that these applications have scarcely been tested yet (in the form proposed here) by telecommunications companies, much less widely-implemented. While it is true that in many cases, Moore IDS will sell such an enhanced application by supplanting a current billing activity (whether handled now in-house or through an outside vendor), in most cases this will not be a one-to-one substitution. The enhanced application will add value by also providing a broader strategic benefit to the enterprise (e.g., better customer service).

(Note: Please see the exhibits and discussions following Exhibit III-10, for detailed, qualitative introductions to each opportunity quantified here.)

As to methodology for this opportunity sizing, for the first application—a packaged service to handle billings and collections—the number of subscribers is the same as that used to size the basic billing application. The unit price of $0.30 derives from two sources for the two service components: $0.20 for the billing service, as assumed for the sizing of the basic billing notice application, plus $0.10 developed through an INPUT conversation with Moore IDS concerning discussions with National Processing Corporation about offering lockbox services.

EXHIBIT III-18

## Telecommunications: Enhanced Applications Sizing Numeric

| Application | Estimated Size, by Segment ($ Millions) | | | | | Totals |
|---|---|---|---|---|---|---|
| | Independents | RHCs/ BOCs | Nets | Cellulars | CATVs | |
| **Bill/Collect** | | | | | | |
| Est. 1989 subscribers | 15 | 75 | 2 | 2 | 45 | 139 |
| Assumptions: | | | | | | |
| $0.30 per bill | | | | | | |
| 12 bills per year | | | | | | |
| Sizing, $ value | $54 | $270 | $7 | $7 | $162 | $500 |
| **EFT/ACH Billing** | | | | | | |
| Est. 1989 subscribers | 15 | 75 | 2 | 2 | 45 | 139 |
| Assumptions: | | | | | | |
| $0.25 per bill | | | | | | |
| 12 bills per year | | | | | | |
| Sizing, $ value | $45 | $225 | $6 | $6 | $135 | $417 |
| **EDI Corp. Billing** | | | | | | |
| Est. 1989 corp. subscribers | 1 | 7 | N/A | 2 | N/A | 10 |
| Assumptions: | | | | | | |
| $0.50 per bill | | | | | | |
| 12 bills per year | | | | | | |
| Sizing, $ value | $6 | $42 | $0 | $12 | $0 | $60 |
| **Total Bills Per Year** | 372 | 1,884 | 48 | 72 | 1,080 | 3,456 |
| **Total $ Values** | $105 | $537 | $13 | $25 | $297 | $977 |

Likewise, the number of subscribers used for EFT/ACH electronic billing is unchanged. In this case, the unit cost of $0.25 is derived from extensive INPUT experience in EFT/ACH.

EDI corporate subscriber numbers are estimated as follows. Nets and CATVs are excluded, as they mainly serve consumers and not businesses; each corporate subscriber to the independents or RHCs/BOCs is assumed to be a single bill-paying entity; total corporate subscribers is the total number of corporations, propriatorships, and partnerships shown in U.S. government data. All cellular subscribers are assumed to be corporate users. The $0.50 unit price is derived from extensive INPUT expertise in EDI.

Using this methodology, the billing/collection and EFT/ACH billing opportunities within the RHC/BOC segment shows the largest application/segment size. The CATV segment shows lesser, but still strong, application quantities for the same two applications, followed by the independents.

One final note: Even at the sizing—rather than market-forecast—levels, these enhanced opportunities present another quantification challenge. Among the basic billing application and the enhanced applications of packaged billing/collection, EFT/ACH-based billing, and EDI for corporate customers, all these applications are classic migration opportunities, where Moore IDS ideally may be able to start a customer on one application and then migrate the customer to another, more advanced application. Thus, their sizing in this exhibit should not be considered strictly additive, despite the total dollar values shown. Think of this line as showing the total yearly opportunity primarily to support calculations of percent-of-total numbers for simplified cross-comparisons, should those be useful to Moore IDS' subsequent analysis of this data.

Exhibit III-19 provides a graphic presentation of the relative sizes of each enhanced application, across all telecommunications segments.

EXHIBIT III-19

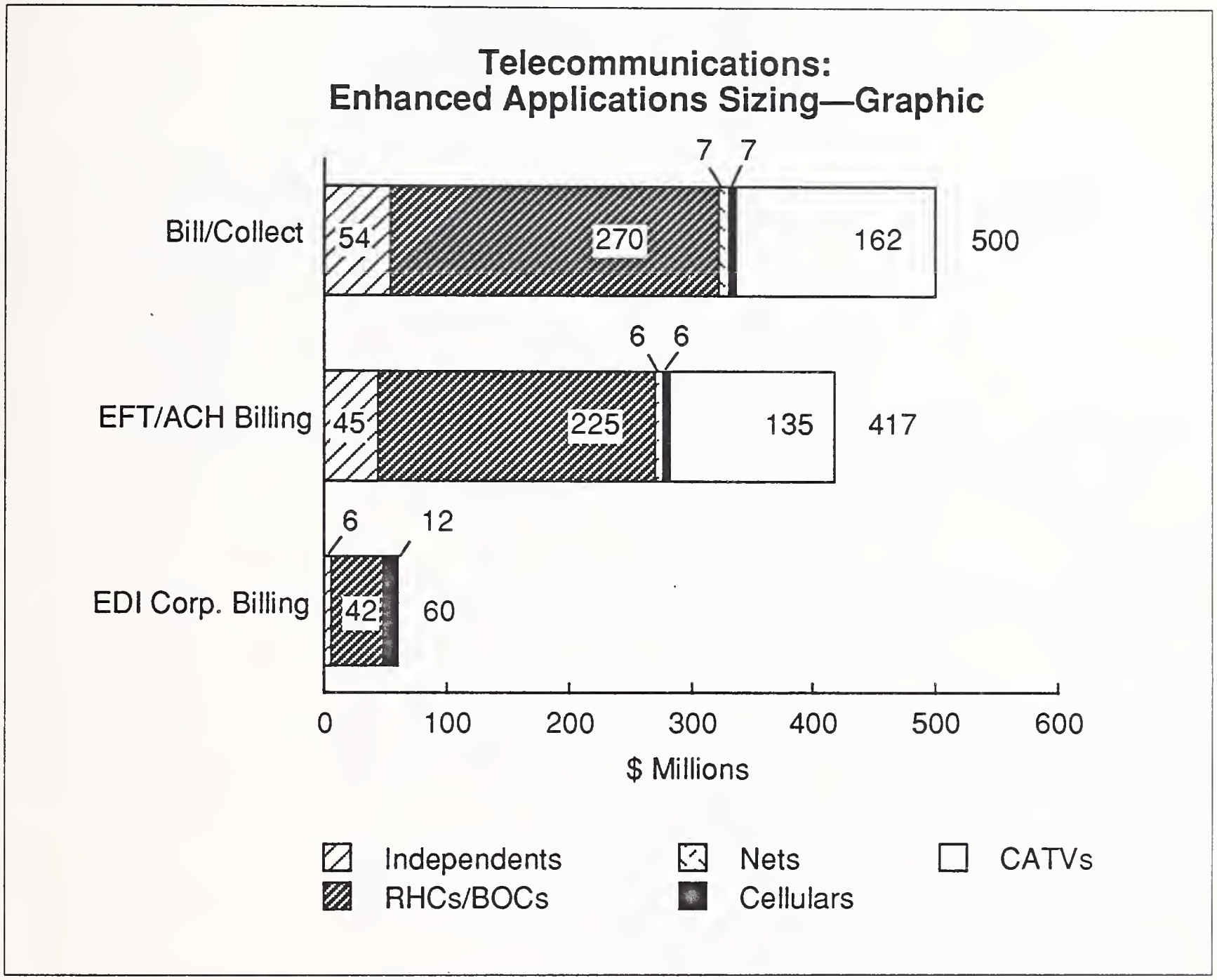



Exhibit III-20 duplicates the methodology of Exhibit III-17 to show attractiveness ratings, this time among the enhanced application opportunities.

All "willingness to outsource" and "level of pain or problem" ratings here are subjective and relative INPUT judgments, based on both direct statements in interviews and general telecommunications-industry experience and knowledge.

EXHIBIT III-20

## Telecommunications: Attractiveness Ratings of Enhanced Services Opportunities

| Application Opportunity ($ Millions) | | Criteria Ratings (range: 1 = negative to IDS, 5 = positive) | | | Overall Attractiveness (range: 1 = lowest, 125 = highest) |
|---|---|---|---|---|---|
| Type | Size | Relative Size X | Willingness to Outsource X | Level of Pain or Problem = | Relative Rating Value |
| Bill/Collect | $500 | 3 | 3 | 2 | 18 |
| EFT/ACH Billing | $417 | 3 | 4 | 2 | 24 |
| EDI Corp. Billing | $60 | 1 | 5 | 2 | 10 |
| Total Enhanced | $977 | | | | 52 |

For the billing and collection service application, the rating of 3 for willingness to outsource represents a compromise rating, as outsourcing of billing and lockbox collection services (separately provided) is near universal among the cellulars and CATVs. However, billing is virtually all in-house (by preference) for the independents, RHCs/BOCs, and nets. In a few cases, those three segments report use of lockbox services.

For EFT/ACH-based billing, INPUT's judgment rating of 4 for outsourcing willingness reflects interviewees' overwhelming interest in this technical option, and their general lack of experience with it, balanced slightly by an INPUT hypothesis that the independents and RHCs/BOCs in particular may wish to appropriate this important new electronic technology to themselves for both in-house use and as a new service offering to their business customers, who also may wish to implement EFT/ACH-based billing with their own customers.

EDI outsourcing willingness is rated at 5 because, while many interviewees recognize this as a necessary future billing option with corporations, no interviewees express any expertise in it (and only very limited experimentation to date is indicated), and (as noted earlier) Geisco and TYMNET are already reportedly offering such service effectively and profitably.

The level of pain or problem rating for each enhanced application is set at 2, for reasons similar to those noted for the corresponding rating in the basic billing application. Whether they print and mail bills in-house or through an outside vendor (and whether or not they use a lockbox vendor), interviewees are generally quite satisfied with the current situation, with three exceptions: some cases of outmoded billing software in-house, some instances of billing vendor inflexibility, and at least one situation in which the lockbox vendor takes too long to post transactions to the company's bank account. On balance, INPUT judges their level of pain or problem with billing and collection functions at the level of 2—slight, but still short of moderate—level, problems.

Given these ratings that balance the quantitative and qualitative criteria, the EFT/ACH application rates somewhat ahead of the billing/collection service application and substantially ahead of EDI.

The variations in ratings shown here underscore an earlier note about an important implication of this methodology, justifying substantial restatement of that note here. While the highest relative rating value possible here is 125 (5 X 5 X 5), three moderate ratings of 3 each yields a product of only 27. Clearly this is not 50% of the top rating of 125, and yet it is actually quite instructive: an opportunity that is totally positive to Moore IDS' interests in all ways (three ratings of 5 each) certainly should be far ahead of any moderately-sized application for which customers now express a moderate willingness to outsource and experience only moderate pain or problems. The value of 24 shown for the EFT/ACH billing application—compared with the rating product of 10 at the low end for EDI—shows some of the range of differentiation possible with this rating methodology.

## D

## Recommendations

INPUT notes several recommendations for Moore IDS' consideration.

In Exhibit III-21, INPUT recommends that Moore IDS—to the extent that it decides to compete at all for basic (versus enhanced) applications in the telecommunications industry—focus first on just the two segments where outsourcing of billing is common now: cellulars and CATVs. Two distinctly different competitive approaches are called for in these two segments.

EXHIBIT III-21

## Telecommunications: Recommendation Basic Services Opportunities

- If the decision is made to compete for basic billing services, focus on cellulars and CATVs, where outsourcing is typical now
  - Cellulars: Compete as national vendor (versus local printing and mailing shops) at the group-owner level
  - CATVs: Evaluate acquisition of one of the two leading billing vendors
- To compete with in-house capabilities at independents and RHCs/BOCs, survey corporate customers on billing options needed but not provided
  - Challenge: Strong unions

To win business with the cellulars, Moore IDS should position itself as a full-capability national vendor with options far beyond those offered by local printing and mailing shops. Note especially that local vending by the cellulars is a legacy of their origins as local franchises before the relatively recent period of consolidation of control in relatively few corporate hands. Moore IDS should be most effective selling at the level of these group owners, offering national reach and economies of scale across multiple systems.

For the CATVs, on the other hand, INPUT finds such solid market control by the two leading billing service vendors (as reported earlier) that only one competitive course appears realistic for Moore IDS: evaluate the acquisition of one of the leaders outright, both as the starting point for expanding that vendor's CATV market share and possibly as a base for extending its reach into other telecommunications segments.

While INPUT recommends against trying to sell the nets on outsourcing billing operations, INPUT notes that, in reference to the independents and RHCs/BOCs, Moore IDS might choose to undertake further market investigations to determine if a "chink in the armor" perhaps exists within their in-house billing operations, in the form of billing options that

corporate telephone customers are asking for (interviewees report) but are not receiving. As discussed earlier, though, the independents and RHCs/BOCs will likely present an important obstacle to the outsourcing of billing operations: strong unions.

Exhibit III-22 reflects one likely customer objection to any outsourcing of basic applications: the logistical challenge of daily computer-tape writing, transportation, and mounting/reading. Several interviewees volunteered this reservation about current use of lockbox collection services, which provide daily accounting tapes of receipts and deposits.

EXHIBIT III-22

**Telecommunications: Recommendation One Key to Winning Basic Applications**

- Opportunity: Contract for telecommunications company's IS department daily to assemble and transmit all data for printing
- Note: Benefit in electronic transmission reflects several interviewees' complaints about handling daily tape transfers (especially for lockbox accounting)

Moore IDS should preempt this objection by planning for and aggressively implementing electronic transmission-based services that obviate the need for computer-tape transfers.

Exhibit III-23 lists INPUT's recommendations on the enhanced services opportunities, in the order of their complexity to implement.

EXHIBIT III-23

**Telecommunications: Recommendation Enhanced Services Opportunities**

- Quickly ally with at least one lockbox vendor to provide an integrated billing and collection service
  - Consider carefully the pros and cons of first competing for basic billing applications
- Determine technical options and overall costs to offer EFT/ACH electronic billing, testing the market before commitment
- Research the experience of leading EDI vendors in the telecommunications market to validate the opportunities and evaluate the competition

INPUT recommends immediate Moore IDS consideration of one or more lockbox vendor alliances—carefully integrating the lockbox services and data base/communication requirements with those on the billing service side—as perhaps the strongest competitive thrust against both in-house and vendor billing operations and services. Using the sports analogy, this is an end run around standalone billing applications (that should allow Moore IDS to sell the vision of such an enhanced, all-electronic application at high corporate levels) rather than a head-to-head competition with in-house billing champions or well-entrenched billing vendors. Moore IDS should carefully weigh this option against the more straightforward approach of direct competition on basic billing, even though first winning such business (if the competition is successful) would indeed lead naturally into expanding the sale later to include lockbox services.

EFT/ACH-based service for electronic billing could likely be sold into either non-Moore IDS paper-billing environments or as an extension of billing by Moore IDS, once the basic application is sold and successfully implemented. INPUT recommends high-priority attention on evaluating EFT/ACH's technical options and overall costs—including the cost of the learning curve to get started, as well as any alliances or acquisitions required. Moreover, interview comments in no way clearly indicate a solid market for EFT/ACH. Rather, it is considered an interesting and logical possibility (over 70% of interviewees foresee paper bills being replaced by electronic billing in some form at some time), but few precedents to date that demonstrate such a service are reported. Moore IDS

should carefully research and test this market before making substantial corporate commitments to the telecommunications industry. Note also, as mentioned earlier, that the independents and RHCs/BOCs in particular may regard EFT/ACH as a technical option they want to reserve for in-house use now, in order to develop experience to help market it later to their business customers for EFT/ACH billing of their own customers.

Regarding EDI, there is a high level of current interest and testing, but very little production use. This window of opportunity is wide open.

Note also that, while each of these enhanced opportunities requires substantial computer-related investment, little or no noncomputer physical plant expansion will be required for Moore IDS to seize the enhanced opportunities.

The cautioning recommendation of Exhibit III-24 first notes that telecommunications companies that operate primarily in-house today—especially the independents and RHCs/BOCs that have recently succeeded with laser printers—will have to be educated about the virtues of outsourcing: levels of service, costs (if lower than or comparable to in-house), and substituting on-going service costs for in-house capital investments. Also important is avoiding the hassles of keeping up with rapidly changing technology, vendor options, outdated equipment and processes, etc.

EXHIBIT III-24

**Telecommunications: Recommendation Most Opportunities Will Require an Educational Sell**

- Basic Services Opportunities: Educate about outsourcing
- Enhanced Services Opportunities: Educate about the future (near and far)

Similarly, Moore IDS will succeed in selling enhanced services only if telecommunications companies are educated to share a vision of the near and/or far future technological opportunity that provides realistic approaches to their fantasies, including an increasingly paperless billing function. They must both see the feasibility of the solution and envision "the IDS division of Moore Business Forms" (perhaps renamed) as a credible vendor of such electronic services.

As Exhibit III-25 notes, exactly two-thirds (16 of 24) of those interviewed express at least a tolerant openness to a no-cost study of the types of business communication operations discussed in detail during the interview in the quarter-hour before this question was asked. Several report using such studies in the past, one on a regular basis.

EXHIBIT III-25

**Telecommunications: Recommendation Offer an Operations Study to Prospect**

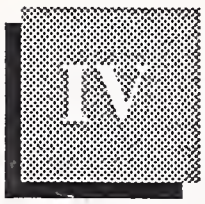
- Moore IDS Opportunity: Two-thirds OK a no-cost operations study
- Use as a Trojan Horse to educate prospects and access higher management levels

Note: The planned question format proved awkward (given INPUT's self-positioning as an independent researcher) when it was presented in terms of a study sponsored by a business-communications vendor. Therefore, that type of reference was dropped. The interviewer believes, however, from verbal cues given and received, that most interviewees understood that "no-cost" equalled "sponsored by a vendor," either an in-house equipment vendor or an outside service vendor.

Interviewees would expect the study to cover primarily issues of efficiencies, new options, and costs. Those who would decline a study generally indicated that they felt such a study would be too time-consuming.

Given this finding—and the need just outlined for an educational-sell approach, which will benefit from more information—INPUT recommends that Moore IDS exploit a Trojan Horse strategy that uses such studies to win study-based access ("for interviews about key business-communication needs") to key principals. This will also open up the opportunity to present both the results and the Moore IDS business case at the highest management levels: to executives who can take the broadest view of proposed business efficiencies and improvements in business communication effectiveness.

# Implementing Enhanced Services: Sales/Delivery Mechanisms Required



# Implementing Enhanced Services: Sales/Delivery Mechanisms Required

Several new sales and delivery mechanisms will be needed for Moore IDS to offer enhanced services, as indicated in Exhibit IV-1.

See the following sections for column-by-column discussions on this exhibit.

## A

### Sales Expertise

To the extent that knowledge of new technologies such as EFT/ACH and EDI is necessary for selling one or more enhanced services, sales representatives will require the relevant technical training: they will need training in lockbox services for the billing/collection opportunity; and, in order to sell the EFT/ACH- and EDI-based services, sales representatives must understand the dynamics of service bureau sales and customer service.

## B

### Printing and Mailing Equipment Required

INPUT identifies no need for new printing or mailing equipment types to implement any of the enhanced services opportunities.

EXHIBIT IV-1

## Telecommunications: New Sales and Delivery Mechanisms Required

| Opportunity | Sales Expertise | Printing Equipment | Information Technology | Alliances/Acquisitions |
|---|---|---|---|---|
| Bill/Collect | Lockbox knowledge | (None) | Lockbox accounting and reporting systems | Lockbox vendor(s)<br>NYNEX<br>MOBILOG<br>Cable Data<br>Cable Services Group (AMEX) |
| EFT/ACH | EFT/ACH knowledge | (None) | EFT/ACH<br>• network connections<br>• processing<br>• accounting | EFT/ACH<br>• government authorities<br>• service bureau(s) |
| EDI billing | EDI knowledge | (None) | EDI translation/ store-and-forward network | GEIS Co.<br>TYMNET<br>Electronic Data Systems<br>Computer Sciences Corp.<br>National DataCorp.<br>Ordernet |

## C

**Information Services Technologies Required**

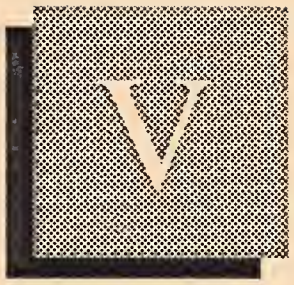
In most cases, the information services technologies required are specific to the technical base of each enhanced service opportunity, and these are detailed earlier in the sections covering those opportunities. Additionally, this exhibit identifies some accounting system requirements specific to the lockbox or service bureau environments involved with several opportunities.

The only generalized new information service technology that Moore IDS needs to implement for almost any opportunity identified—including the basic services of taking over some or all in-house printing and mailing operations—is expanded electronic data transfer technology that would permit telecommunications companies to transmit data and instructions through daily electronic communications. This would avoid the cumbersome, and perhaps unsalable, process of daily transfers of magnetic tapes.

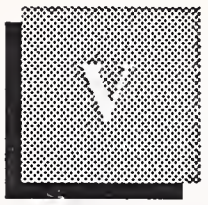
## D

**Potential Alliances/ Acquisitions**

A number of firms would be potential allies and/or acquisition candidates for Moore IDS, generally on an opportunity-by-opportunity basis. Some of the firms listed are well-known telecommunications industry or information-services industry leaders, although a few are newer pioneers identified by INPUT in the course of this research. Perhaps the most interesting is a relatively new national cellular billing service vendor: NYNEX (one of the RHCs) offers a complete cellular telephone billing service called MOBILOG that includes multiple billing options and wide-ranging management reports. The contact at NYNEX is Paul Hokeland, Director of Billing Services, at 914-620-5029. As mentioned earlier, to serve the CATVs it may prove appropriate to consider acquisition of one of the two leading billing vendors in that market segment: Cable Data or the Cable Services Group division of American Express.



# Other Observations



# Other Observations

## A

### Data Processing/ Information Services Issues

As Moore IDS plans for close electronic interaction with telecommunications companies, note that one interview indicated that at least one RHC is now actively reworking the in-house billing systems used by its BOCs. Other RHCs have done so recently, and still more may be planning to do so.

If Moore IDS is interested in pursuing the basic service opportunity among the RHCs/BOCs, INPUT suggests first surveying information systems managers at the RHCs to determine their status on redesigning billing systems. A firm that has recently concluded such work or is committed to it will likely not welcome Moore IDS as a vendor.

## B

### Environmental Threats and Opportunities

A number of environmental threats and opportunities are relevant to the applications outlined above for the telecommunications industry, as shown in Exhibit V-1.

EXHIBIT V-1

## Telecommunications: Environmental Threats and Opportunities

- Threats
  - Negative changes in RHC/BOC regulations
  - Successful market entry into telecommunications by computer companies
  - New technologies (e.g., cellular telephone) erode current markets (e.g., basic wired telephone service)
  - Rapid recent growth of cellular telephone service levels off
  - Postage may rise 25% in 1991
- Opportunities
  - Positive changes in RHC/BOC regulations
  - New fiber optic technology radically widens the range of feasible telecommunications services
  - Outsourcing of DP functions is increasing; for example, Kodak contract with IBM (all industries)
  - Other new technologies open new markets

C

Competition

As noted earlier in discussions on outsourcing, the key competition in the independents, RHCs/BOCs, and nets is in-house billing operations. Local printing and mailing houses serve the cellulars today, whereas the CATVs are served primarily by the two national vendors identified above: Cable Data and the Cable Services Group division of American Express.

Additional enhanced services competition is likely from alliance/acquisition targets listed in Exhibit IV-1.

## D

### Leverage Potential

Within the telecommunications industry, INPUT sees the potential for customers to migrate from the premium billing and collection packaged service to the EFT/ACH-based billing service. Such migration can occur with or without the further leverage of first starting the customer on basic billing services without the packaged collection component.

## E

### Marketing Ideas

Most relevant marketing ideas have been detailed earlier, the key ones being positioning of Moore IDS as a national vendor to the national parents of the leading groups of cellulars and CATVs, and the use of an operations study as a Trojan Horse.

One additional marketing idea may be worth Moore IDS' examination. For the basic billing application, in-house printing generally is done on a daily basis, rolling through the entire subscriber base once each month. It would be worth probing telecommunications companies (especially in reference to price breaks from economies of scale in set-up/print run costs) whether weekly runs of bills might provide just as adequate service to subscribers.

## F

### Other Application Opportunities

Promotional mailings were excluded from the scope of INPUT's research mandate by Moore IDS, and were not mentioned significantly by interviewees on a spontaneous basis.

No other application opportunities surfaced beyond those already discussed.